

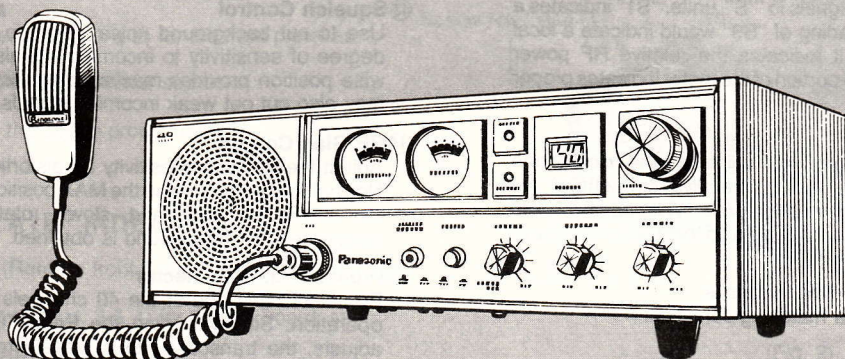
Service Manual

Radio

40-CHANNEL
CITIZENS BAND TRANSCEIVER

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RJ-3600



■ SPECIFICATIONS

Power Source

120 V (60 Hz), AC
13.8 V, DC

Receiver Section

Frequency Range: 26.965 MHz to 27.405 MHz
Sensitivity: Less than -6 dB (0.5 mV)
for 10 dB S/N at 1 kHz, 30% modulation
Selectivity: Bandwidth 5 kHz min. for 6 dB
Adjacent Channel Rejection: 55 dB
Audio Distortion at 1 kHz: Less than 10% at 2 W
Cross Modulation Rejection: Better than 45 dB

Transmitter Section

Frequency Range: 26.965 MHz to 27.405 MHz
Power Output at 13.8 V, DC: 4 W max.
Modulation: Less than 100%
Emission (Class D Operation): 6A3
Spurious Emission: -60 dB
Frequency Tolerance: $\pm 0.005\%$

Speaker: 4" (10 cm) PM Dynamic Speaker
Dimensions: 13 $\frac{5}{8}$ " (Wide) $\times$ 5 $\frac{1}{4}$ " (High) $\times$ 8 $\frac{1}{16}$ " (Deep) (337 $\times$ 133 $\times$ 220 mm)
Weight: 10 lb. 6 oz. (4.7 kg) with Microphone
Impedance: Microphone Jack 700 Ω
Speaker 8 Ω
EXT Speaker Jack 8 Ω
Antenna Jack 50 Ω

Specifications are subject to change without notice for further improvement.

Panasonic®

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■FEATURES

- 40 channels
- L.E.D. (Light Emitting Diode) Digital Channel Display
- Preset System for all 40 channels
- RF Gain Control
- Two Illuminated Meters (S/RF Power and VU/MOD)
- Squelch Control
- NB (Noise Blanking)/ANL (Automatic Noise Limiter)
- Antenna Warning Indicator

■CONTROLS AND THEIR FUNCTION

① Push-To-Talk Switch

To transmit, speak into the microphone while pressing this switch. To receive, release it.

② Microphone

Speak in a normal voice, directly into the microphone. Hold the microphone about an inch or two away from your mouth.

③ S/RF Power Meter

This meter has two functions: When receiving, it indicates the relative strength of received signals in "S" units. "S1" indicates a weak or distant station; a reading of "S9" would indicate a local station. When transmitting, it indicates the relative RF power output. A reading in the upper-portion of the meter indicates proper transmission power.

④ VU/MOD Meter

Indicates the relative strength of your voice into the microphone during transmission (MOD), and the relative strength of the speaker power output during reception (VU). While speaking into the microphone, adjust the voice strength so that the pointer stays in the green range.

⑤ Antenna Warning (ANT WARN) Indicator

This indicator shows antenna matching condition.

⑥ On-Air Indicator

Lights up when the Push-To-Talk Switch on the Microphone is in the transmit mode.

⑦ Digital Channel Display Panel

Indicates which channel the unit is turned to for transmit and receive. But, it displays nothing when the Preset Channel Push-switch is ON.

⑧ Channel Selector

Selects any one of the 40 channels for transmit and receive.

⑨ Microphone Socket

Plug the microphone into this socket, and secure the plug with the captive screw-ring. This unit is totally inoperable if the microphone is disconnected.

Note: Do not use other microphones with dissimilar characteristics.

⑩ Preset Channel Pushswitch

When pushing this pushswitch, the indicator on it lights up and channel display disappears, you can then communicate on any channel preset with the Preset Channel Selector, regardless of the Channel Selector position.

- On-Air Indicator
- Illuminated Preset Channel Pushswitch
- AC/DC Power Operation
- Positive, or Negative Ground Operation
- External Speaker Jack
- Dynamic Microphone with Push-To-Talk Switch
- 4" Diameter Self-Contained Speaker

⑪ Noise Blanking (NB)/Automatic Noise Limiter (ANL) Push-switch

Normally, leave the switch in the "OFF" position.

Set this switch in the "ON" position to reduce noise caused by electric motors, ignition, lightning, etc. . . .

⑫ On/Off Switch and Volume Control

Turn the control clockwise to turn the set on and to adjust the receiver's sound level.

⑬ Squelch Control

Use to cut background noise when no signals are being. The degree of sensitivity to incoming signals is adjustable; a clockwise position provides maximum squelch, but in this position, it may also cut out weak incoming signals.

⑭ RF Gain Control

Adjust the receiver sensitivity for distortion-free reception.

Normally, should be set in the MAX position. If received signals are too strong to understand, slowly rotate this control counter-clockwise until clear sound is obtained.

⑮ Preset Channel Selector

Preselects any one of the 40 channels for the Preset Channel operation. Simply turning the Preset Channel Pushswitch on adjusts, the transceiver to a preselected channel at any time.

⑯ Antenna Socket

Any 50 Ω antenna, designed for CB applications, may be connected.

⑰ External Speaker Jack

When an external 8 Ω speaker is connected, the built-in speaker is automatically disconnected.

⑱ DC Power Cord Connector

⑲ DC Fuse Holder

Supplied with a 2 A fuse.

⑳ AC Power Cord

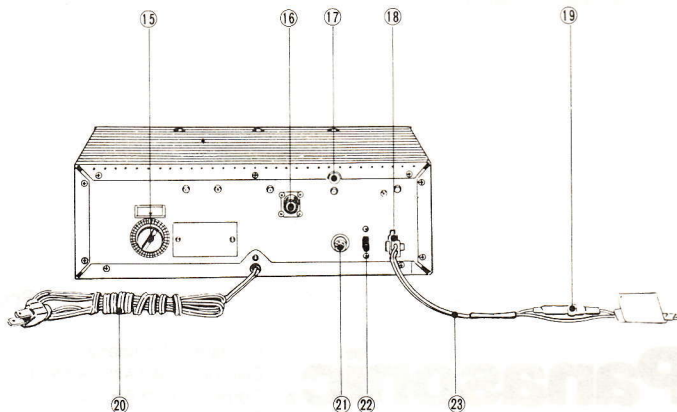
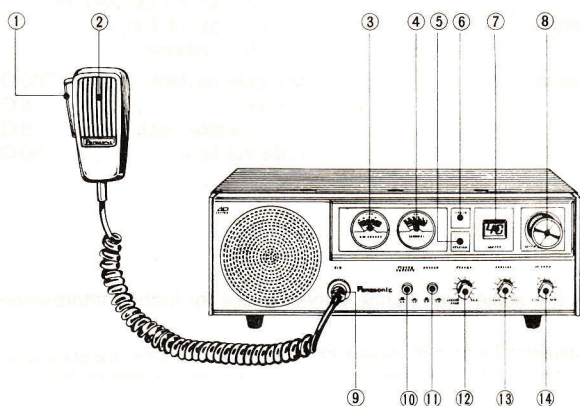
㉑ AC Fuse Holder

Supplied with a 2 A fuse.

㉒ AC/DC Selector Switch

㉓ DC Power Cord

This unit is designed to operate on 13.8 V, DC. Connect this cord to a 12 V battery, or other 12 V, DC power source. For a vehicle or boat with a 24 V battery, connect the unit through a 24 V, DC to 12 V, DC converter, or to a 12 V section of a 24 V electrical system.



■ TO REMOVE CABINET COVER

1. Remove the ten (10) screws (nos. 1, 2, 3, 4, 5, 6, 7, 8, 9 & 10) for the cabinet cover as shown in fig. 1.
2. Remove the four (4) screws (nos. 1, 2, 3, & 4) for the cabinet cover as shown in fig. 2.
3. Remove the four (4) screws (nos. 5, 6, 7, & 8) for the bottom cover as shown in fig. 2.
4. Remove the cabinet covers.
5. Pull out three (3) sockets, two (2) reads from chassis and fuse holder.
6. To reassemble, reverse the above procedure.

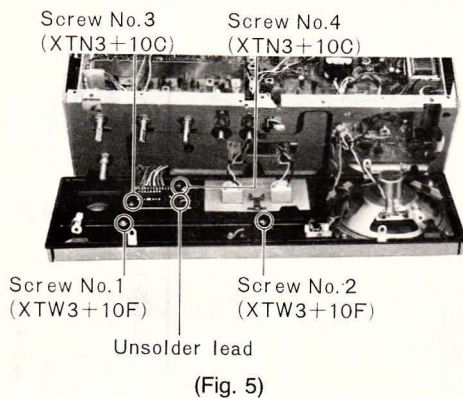
■ TO REMOVE FRONT PANEL ASSEMBLY

1. Remove the cabinet cover. (Refer to cabinet cover removal instruction.)
2. Remove the four (4) control knobs for volume, squelch, RF gain and selector, as shown in fig. 3.
3. Remove the five (5) screws (nos. 1, 2, 3, 4 & 5) for the front panel, as shown in fig. 3.
4. Remove the six (6) screws (nos. 1, 2, 3, 4, 5 & 6) for the front panel, as shown in fig. 4.
5. Remove the two (2) screws (nos. 1 & 2) for the front panel as shown in fig. 5.
6. Remove the Mic connector and speaker socket. Remove the front panel.
7. To reassemble, reverse the above procedure.

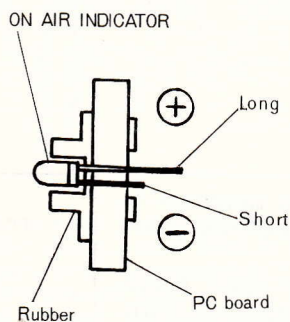
■ TO REMOVE ON AIR INDICATOR

1. Remove the front cover (Refer to front cover removal instruction.)
2. Remove the two (2) screws (nos. 3 & 4) for the PC board, as shown in fig. 5.
3. To remove ON AIR INDICATOR, unsolder lead, as shown in fig. 5.
4. Pull out ON AIR INDICATOR to PC board.
5. To reassemble, reverse the above procedure and read the following note.

Note: Mount the ON AIR INDICATOR, as shown in fig. 6.

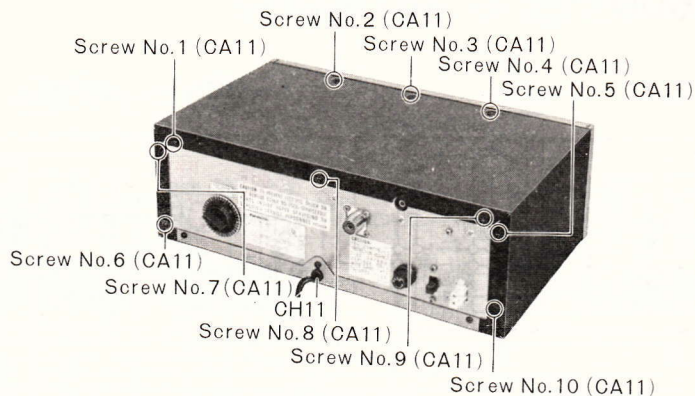


(Fig. 5)

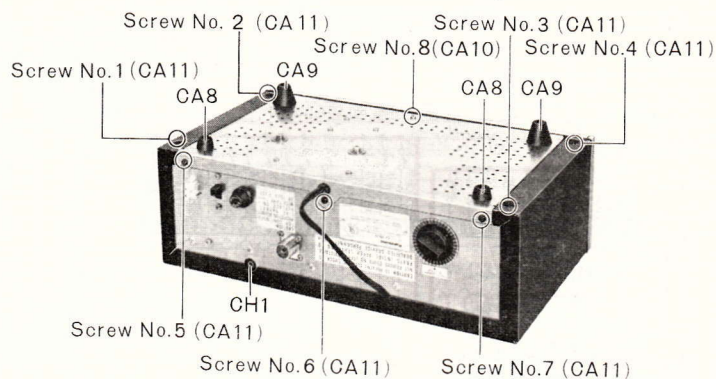


(Fig. 6)

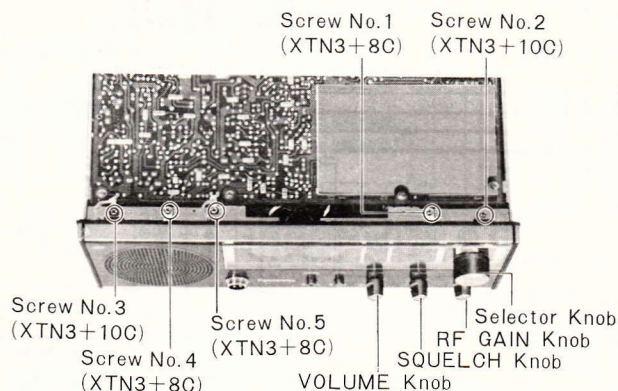
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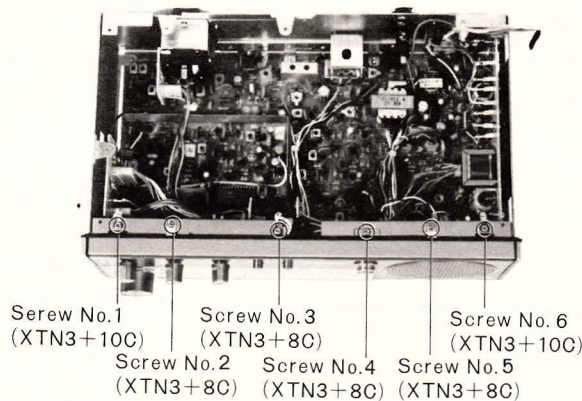
(Fig. 1)



(Fig. 2)



(Fig. 3)



(Fig. 4)

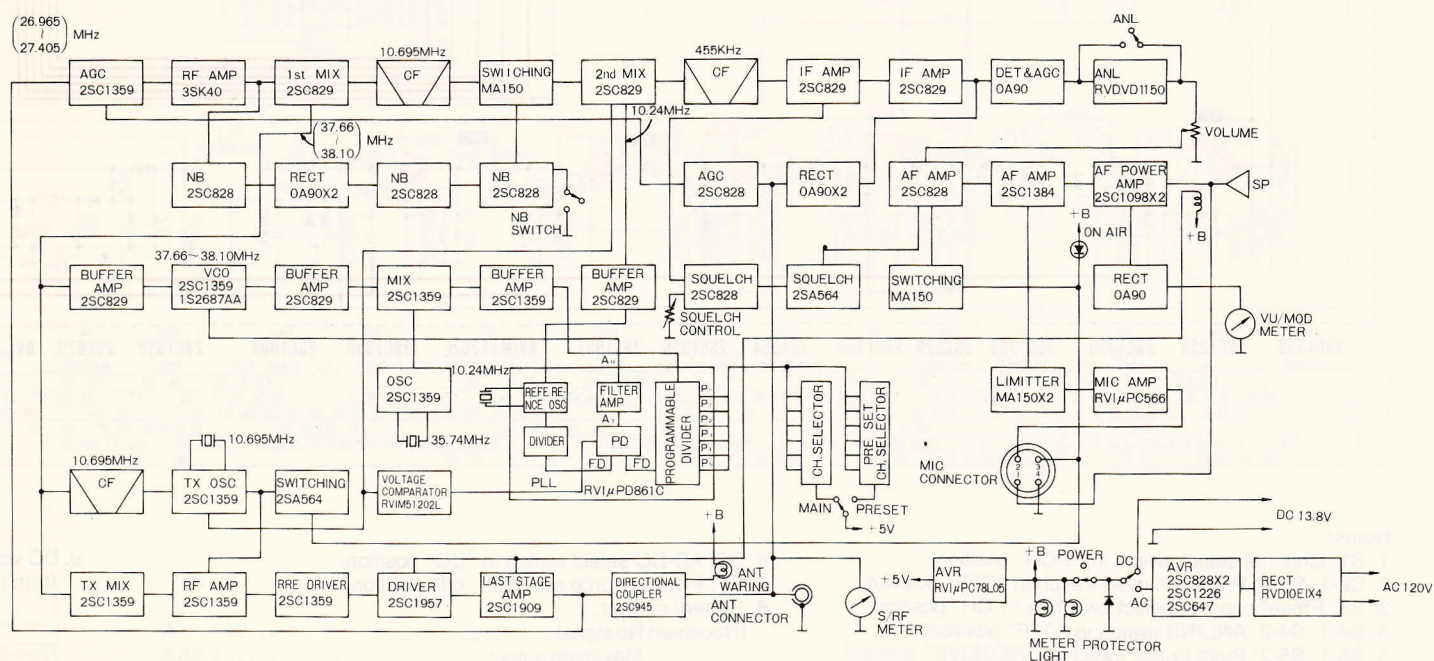
SWITCH POSITIONS FOR CHANNEL

※ ○ : ON, No mark : OFF.

	1 ch	2 ch	3 ch	4 ch	5 ch	6 ch	7 ch	8 ch	9 ch	10ch	11ch	12ch	13ch	14ch	15ch	16ch	17ch	18ch	19ch	20ch
S1-1		○			○		○	○		○			○		○	○		○		
S1-2			○			○			○	○		○	○				○		○	
S1-3				○	○	○	○			○	○	○	○					○	○	
S1-4								○	○	○	○	○	○							○
S1-5														○	○	○	○	○	○	○
S1-6																				
S1-AD																				○
S1-B										○	○	○	○	○	○	○	○	○	○	○
S1-C										○	○		○	○		○	○	○	○	○
S1-E																				○
S1-F																				
S1-G																				○
S1-a		○	○		○	○	○	○	○	○		○	○		○	○	○	○	○	○
S1-b	○		○	○			○	○	○	○	○	○	○	○		○	○	○	○	○
S1-c	○			○		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-d		○	○		○	○		○		○		○	○		○	○	○	○	○	○
S1-e				○	○	○		○	○	○				○	○	○	○	○	○	○
S1-f														○	○	○	○	○	○	○
S1-g		○	○		○							○	○		○	○	○	○	○	○

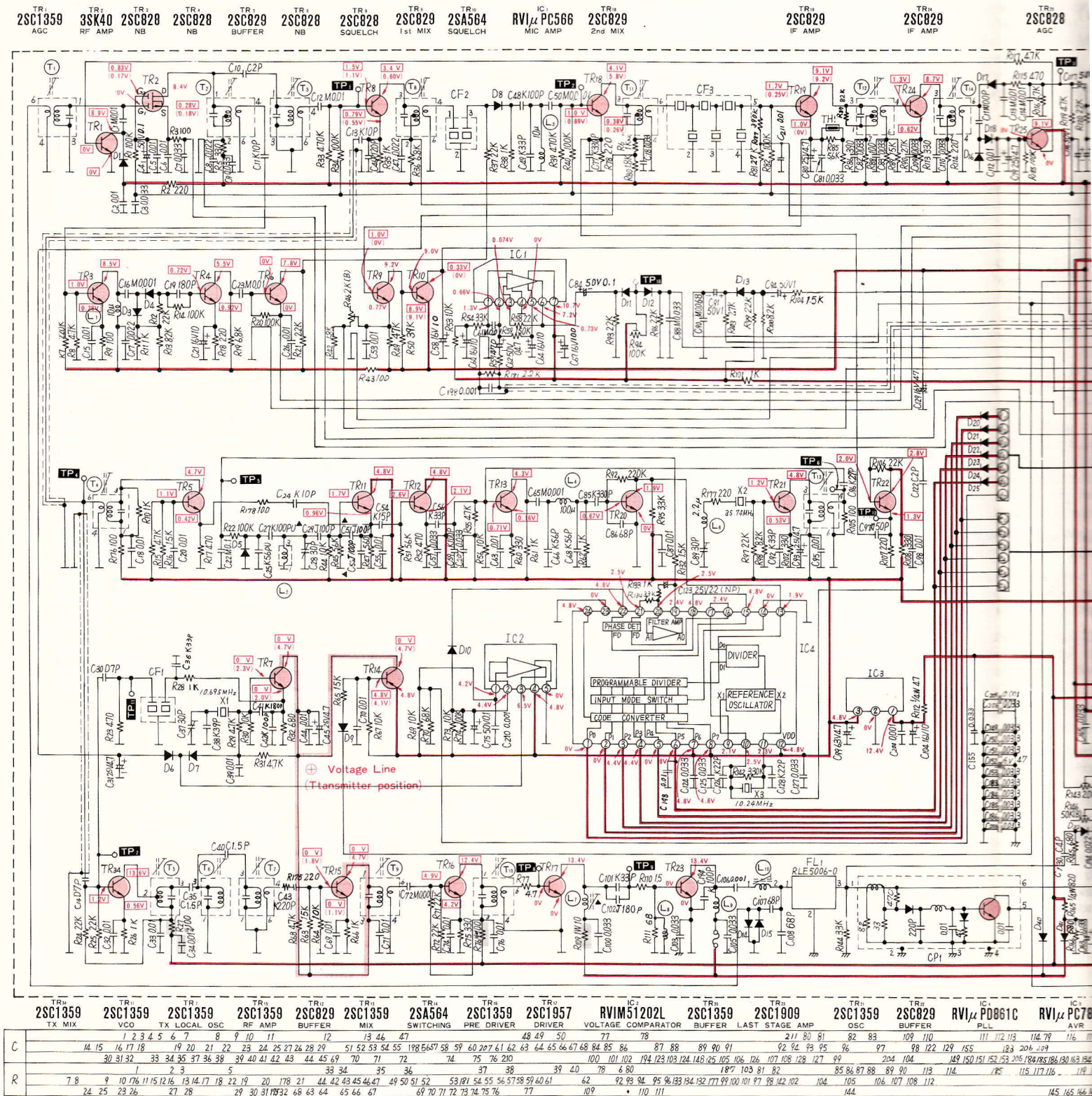
	21ch	22ch	23ch	24ch	25ch	26ch	27ch	28ch	29ch	30ch	31ch	32ch	33ch	34ch	35ch	36ch	37ch	38ch	39ch	40ch
S1-1	○		○	○			○		○		○		○	○	○		○		○	
S1-2		○		○		○	○			○	○			○	○			○	○	
S1-3			○			○	○					○	○	○	○					○
S1-4	○	○	○	○	○	○	○									○	○	○	○	
S1-5	○	○	○	○	○	○	○													○
S1-6								○	○	○	○	○	○	○	○	○	○	○	○	○
S1-AD	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-B	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-E	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-F																				○
S1-G	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-a	○	○	○		○		○	○	○	○	○	○	○	○	○	○	○	○	○	○
S1-b	○	○	○	○								○	○	○	○	○	○	○	○	○
S1-c	○				○	○	○	○	○	○	○			○	○	○	○	○	○	○
S1-d		○	○		○	○	○	○		○		○			○	○	○	○	○	○
S1-e		○																		○
S1-f				○	○	○	○	○	○	○				○	○	○	○	○	○	○
S1-g		○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○

BLOCK DIAGRAM



(Fig. 7)

Schematic Diagram-Model RJ-36



Notes:

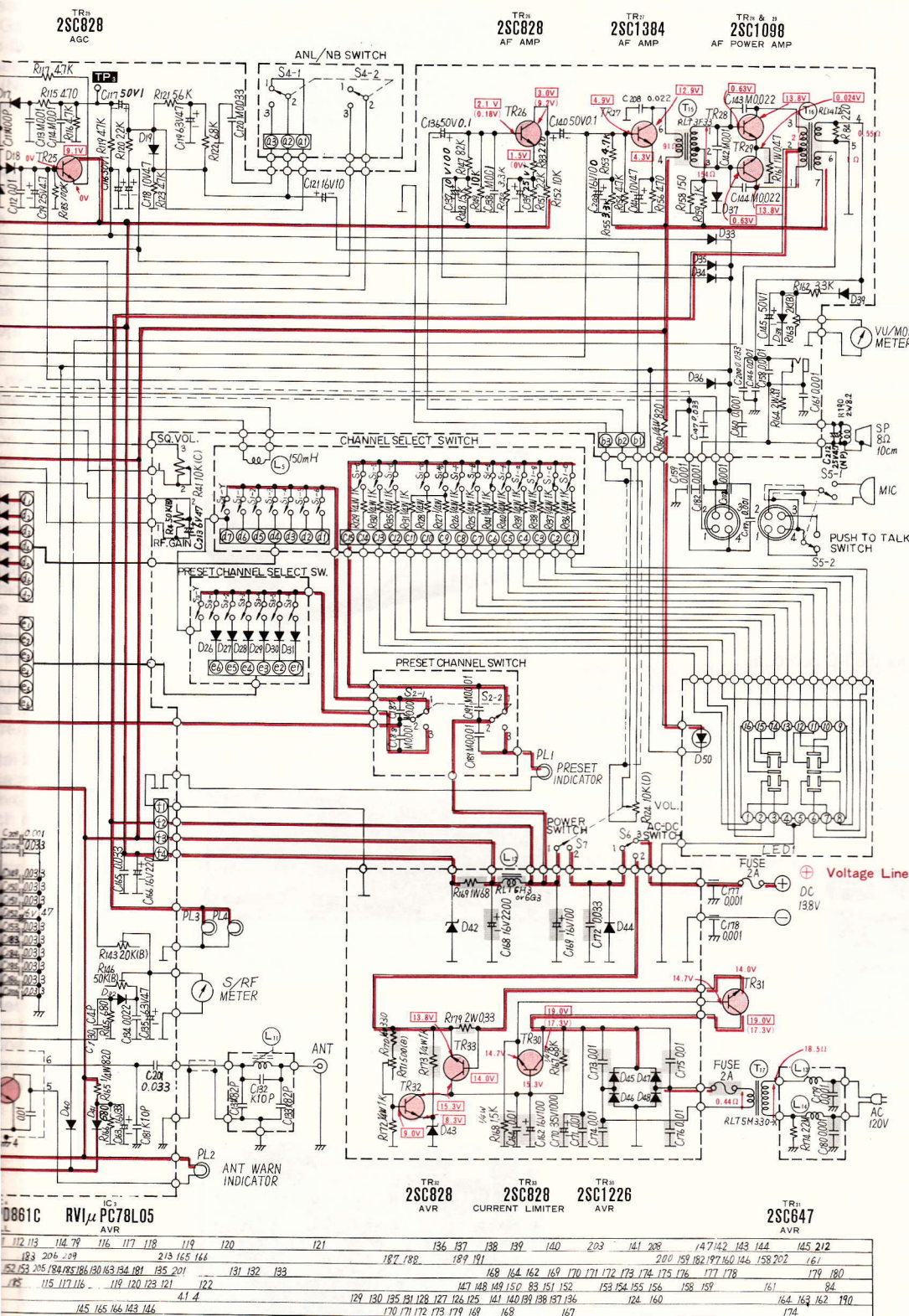
- S1: Channel select switch in "1 CH" position.
- S2-1, S2-2: Preset channel switch in "OFF" position.
- S3: Preset channel select switch in "1 CH" position.
- S4-1, S4-2: ANL/NB switch in "OFF" position.
- S5-1, S5-2: Push to talk switch in "RECEIVE" position.

- S6: AC-DC select switch in "DC" position.
- S7: Power source switch in "off" position.

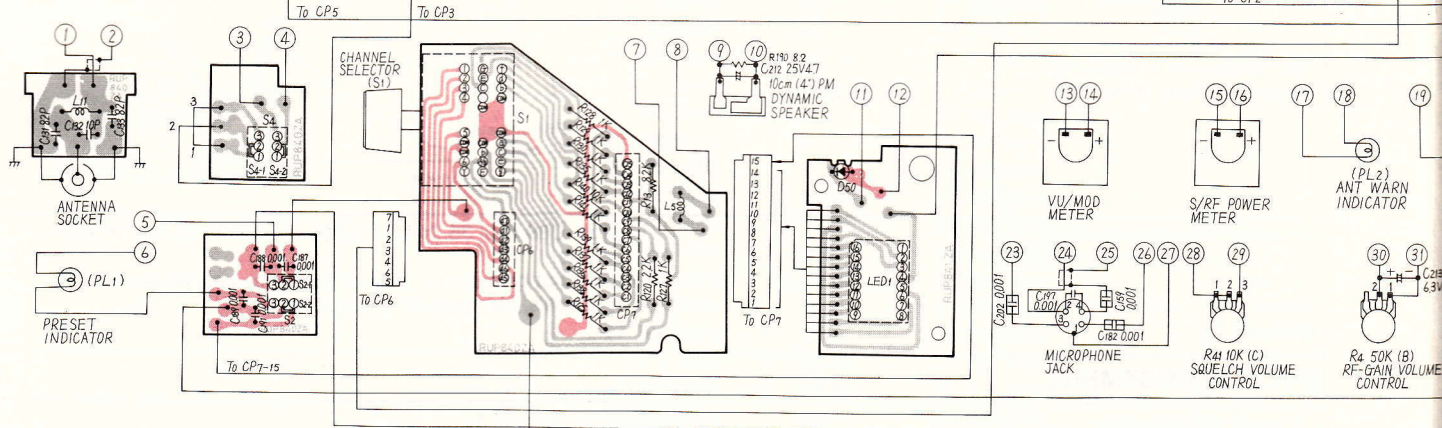
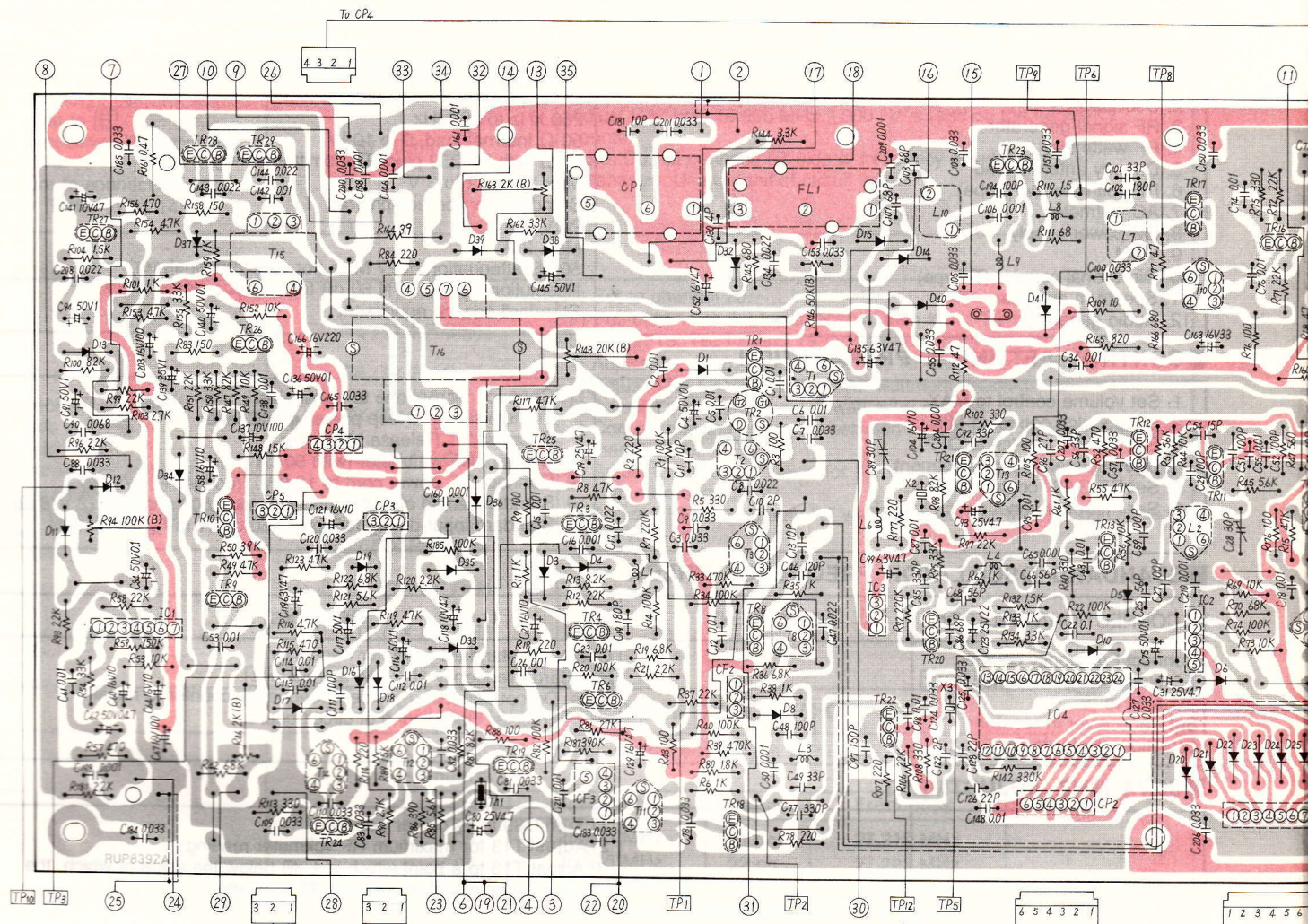
8. Battery current:

(Receiver) No signal A
Maximum output 1.25 A
(Transmitter) 1.11 A

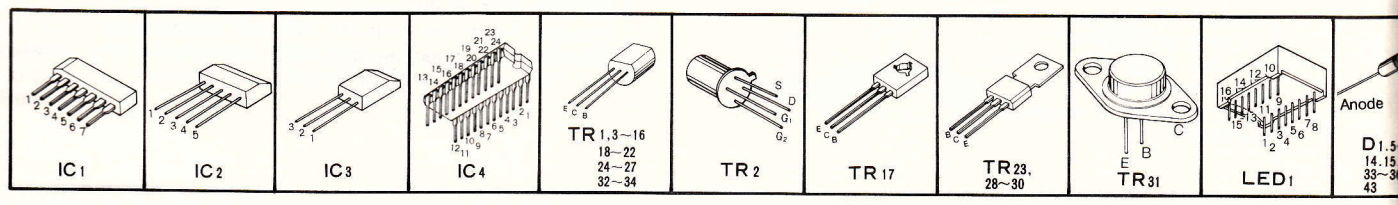
- DC voltage measurement from negative terminal () Transmitter
..... Receiver
Nomark Transmitter

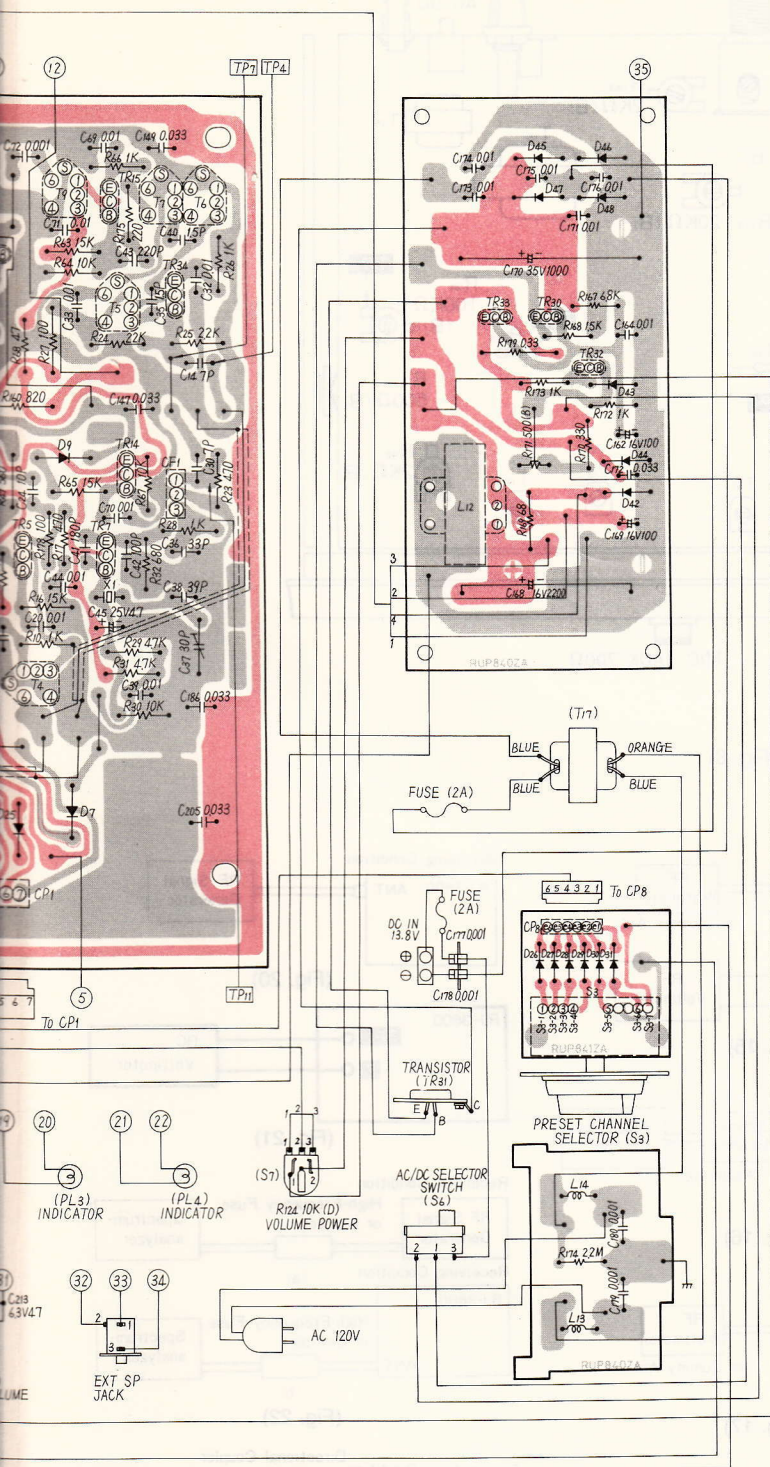


Circuit Board Wiring View-Model F

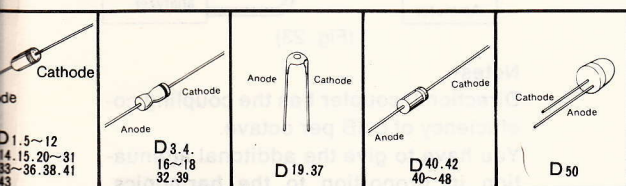


IC TR & D	TR17 D3 D34 TR28 D37 TR29 TR26	D39	D38 TR25	D1 D2 TR1 TR2	D15 D14 D40 TR21	TR23	D41	TR12	TR17	TR11	TR16
T & L	L11	T15	T14	T12 T16	L1 L5 T11	T2 T3 T8 L3 T1	L6	L10	L4 T13 L9 L8	L7	L2 T10





D ₉	TR ₁₅	TR ₁₄	TR ₃₄	TR ₃₃	D ₄₅	D ₄₇	TR ₃₀	TR ₃₂	D ₄₆	D ₄₈	D ₄₄	D ₄₂
D ₂₄	D ₂₅	TR ₅	D ₇	TR ₇	D ₂₆	D ₂₇	D ₂₈	D ₂₉	D ₃₀	D ₃₁		
T ₄	T ₉	T ₅	T ₇	T ₆	TR ₃₁	L ₁₂	TR ₁	L ₁₄	L ₁₃			



TR1	RX	TX
C	8.9V	
B	0V	
E	0V	
IC	0mA	

TR12	RX	TX
C	4.8V	
B	2.6V	
E	2.1V	
IC	4.5mA	

TR23	RX	TX
C	13.4V	13.4V
B	0V	0V
E	0V	0V
IC	0mA	310mA

TR2	RX	TX
S	0.28V	0.18V
D	8.4V	8.4V
G ₁	0V	0V
G ₂	0.83V	0.17V
ID	2.7mA	1.8mA

TR13	RX	TX
C	4.3V	
B	0.71V	
E	0.16V	
IC	0.48mA	

TR24	RX	TX
C	8.7V	
B	1.3V	
E	0.62V	
IC	1.8mA	

TR3	RX	TX
C	8.5V	
B	1.0V	
E	0.38V	
IC	3.8mA	

TR14	RX	TX
C	0V	4.7V
B	4.8V	4.1V
E	4.8V	4.8V
IC	0mA	4.5mA

TR25	RX	TX
C	9.1V	
B	0V	
E	0V	
IC	0mA	

TR4	RX	TX
C	5.5V	
B	0.72V	
E	0.92V	
IC	0.45mA	

TR15	RX	TX
C	0V	4.7V
B	0V	1.8V
E	0V	1.1V
IC	0mA	1.1mA

TR26	RX	TX
C	3.0V	9.2V
B	2.1V	0.18V
E	1.5V	0V
IC	0.63mA	0mA

TR5	RX	TX
C	4.7V	
B	1.1V	
E	0.42V	
IC	0.89mA	

TR16	RX	TX
C	12.4V	
B	4.9V	
E	4.2V	
IC	13mA	

TR27	RX	TX
C	12.9V	
B	4.9V	
E	4.3V	
IC	9.1mA	

TR6	RX	TX
C	7.8V	
B	0V	
E	0V	
IC	0mA	

TR17	RX	TX
C	13.4V	13.4V
B	0V	0V
E	0V	0V
IC	0mA	68mA

TR28	RX	TX
C	13.8V	
B	0.63V	
E	0.024V	
IC	25.0mA	

TR7	RX	TX
C	0V	4.7V
B	0V	2.3V
E	0V	2.0V
IC	0mA	3.0mA

TR18	RX	TX
C	4.1V	5.8V
B	1.0V	0.89V
E	0.38V	0.26V
IC	1.7mA	1.2mA

TR29	RX	TX
C	13.8V	
B	0.63V	
E	0.024V	
IC	25.0mA	

TR8	RX	TX
C	3.4V	0.60V
B	1.5V	1.1V
E	0.79V	0.55V
IC	0.80mA	0.55mA

TR19	RX	TX
C	9.1V	9.2V
B	1.7V	0.25V
E	1.0V	0V
IC	0.85mA	0mA

TR30	RX	TX
C	19.0V	17.3V
B	15.3V	15.3V
E	14.7V	14.7V
IC	17.0mA	23.0mA

TR9	RX	TX
C	9.2V	9.2V
B	1.0V	0V
E	0.77V	0.77V
IC	0mA	0mA

TR20	RX	TX
C	1.9V	
B	0.67V	
E	0V	
IC	0.02mA	

TR31	RX	TX
C	19.0V	17.3V
B	14.7V	14.7V
E	14.0V	14.0V
IC	14.0mA	270mA

TR10	RX	TX
C	0.33V	0V
B	9.0V	9.0V
E	8.9V	9.1V
IC	0mA	0mA

TR21	RX	TX
C	4.8V	
B	1.2V	
E	0.53V	
IC	1.6mA	

TR32	RX	TX
C	15.3V	
B	9.0V	
E	8.3V	
IC	0.32mA	

TR11	RX	TX
C	4.8V	
B	1.7V	
E	0.96V	
IC	1.7mA	

TR22	RX	TX
C	2.8V	
B	2.0V	
E	1.3V	
IC	6.1mA	

TR33	RX	TX
C	15.3V	
B	14.0V	
E	13.8V	
IC	0mA	

IC1	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

IC2	RX	TX
1	4.2V	
2	4.4V	
3	6.5V	
4	4.8V	
5	0V	

IC3	RX	TX
1	12.4V	
2	0V	
3	4.8V	

IC4	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

IC5	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

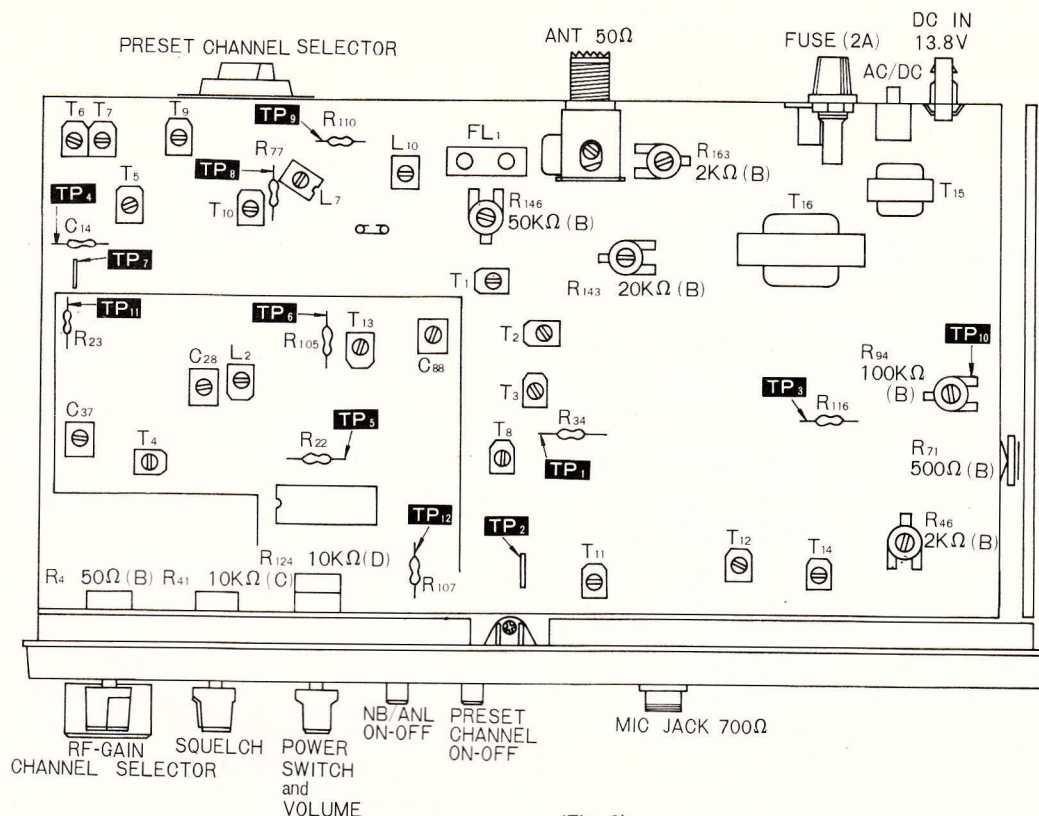
IC6	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

IC4	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

IC5	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

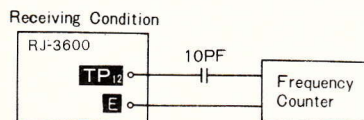
IC6	RX	TX
1	1.3V	
2	0.66V	
3	0.074V	
4	0V	
5	0.73V	
6	7.2V	
7	10.7V	

■ALIGNMENT POINTS

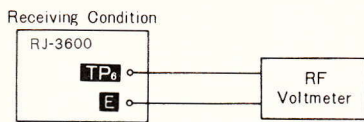


(Fig. 8)

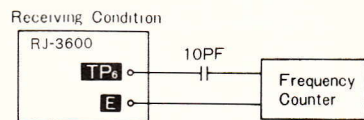
■CONNECTION DIAGRAMS



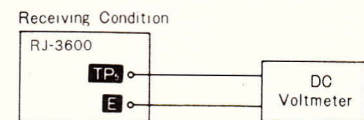
(Fig. 9)



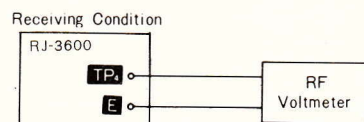
(Fig. 10)



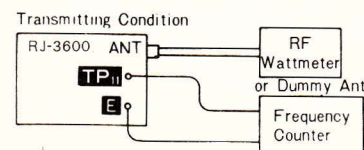
(Fig. 11)



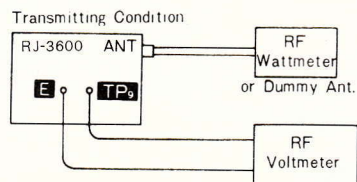
(Fig. 12)



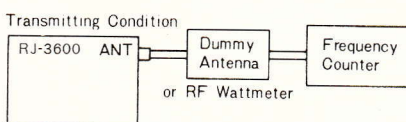
(Fig. 13)



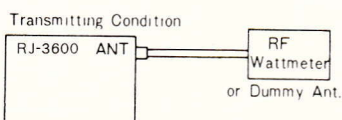
(Fig. 14)



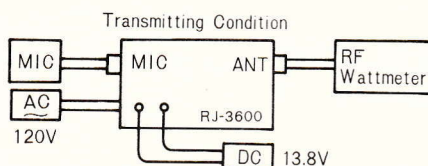
(Fig. 15)



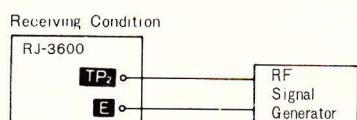
(Fig. 16)



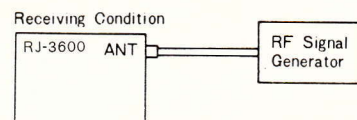
(Fig. 17)



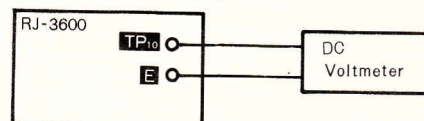
(Fig. 18)



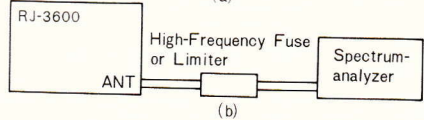
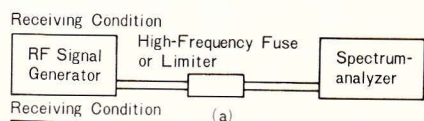
(Fig. 19)



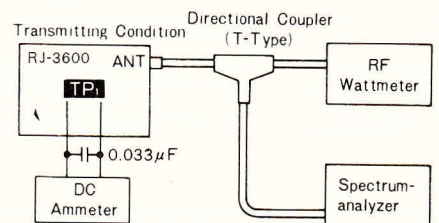
(Fig. 20)



(Fig. 21)



(Fig. 22)



(Fig. 23)

Notes:
Directional coupler has the coupling co-
efficiency of 6 dB per octave.
You have to give the additional attenua-
tion in proportion to the harmonics,
when using Directional Coupler.

CONTROL SETTING & PREPARATION

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■ STANDARD OSCILLATOR FREQUENCY CHECK

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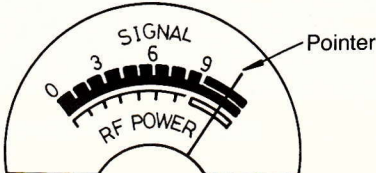
35.74 MHZ ADJUSTMENT

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VCO ADJUSTMENT

Connect DC voltmeter:

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CONNECTION/CONDITION	ADJUSTMENT	REMARKS																																																																																				
TRANSMITTER OSCILLATOR																																																																																						
Connect Frequency counter: ⊕ side to TP11 ⊖ side to E Set transceiver in transmitting condition. Be sure to connect RF wattmeter (Refer to fig. 14)	C37 (Trimmer)	Adjust C37 until 10.695 MHz ±300 Hz is read on the frequency counter. Note: Do not connect ⊖ side of frequency counter to metal chassis. Use ground of circuit board.																																																																																				
RF																																																																																						
Connect RF voltmeter: ⊕ side to TP9 ⊖ side to E Set transceiver in transmitting condition. Be sure to connect RF wattmeter. (Refer to fig. 15)	T5 (TX RF Coil) T6 (TX RF Coil) T7 (TX RF Coil) T9 (TX RF Coil) T10 (TX RF Coil) L7 (TX RF Coil) L10 (TX RF Coil) L11 (TX RF Coil)	- Set to channel 20. - Pull out L11 to the top of bobbin, then lower 1 ½ turns. - Adjust T5, T6, T7, and T9 for maximum RF voltmeter reading. - Adjust T5 (Turn to upper) for 1 W RF wattmeter reading. - Adjust T10, L7 for maximum RF wattmeter reading. - Adjust T5 for maximum RF wattmeter reading. - Confirm that the difference between 1 ch and 40 ch should be less than 0.4 W. - Adjust L10 (Turn to lower) for 3.8 W RF wattmeter reading, if power output exceeds 3.8 W. - Adjust L10 for maximum RF wattmeter reading, if power output up to 3.8 W.																																																																																				
TRANSMISSION FREQUENCY CHECK																																																																																						
Connect frequency counter through dummy antenna to antenna socket. (Refer to fig. 16)	Check that the transmitting frequency is within the following standard. <table border="1"> <thead> <tr> <th>Channel</th><th>Frequency</th><th>Channel</th><th>Frequency</th></tr> </thead> <tbody> <tr><td>1 ch</td><td>26.965 MHz</td><td>21 ch</td><td>27.215 MHz</td></tr> <tr><td>2 ch</td><td>26.975 MHz</td><td>22 ch</td><td>27.225 MHz</td></tr> <tr><td>3 ch</td><td>26.985 MHz</td><td>23 ch</td><td>27.255 MHz</td></tr> <tr><td>4 ch</td><td>27.005 MHz</td><td>24 ch</td><td>27.235 MHz</td></tr> <tr><td>5 ch</td><td>27.015 MHz</td><td>25 ch</td><td>27.245 MHz</td></tr> <tr><td>6 ch</td><td>27.025 MHz</td><td>26 ch</td><td>27.265 MHz</td></tr> <tr><td>7 ch</td><td>27.035 MHz</td><td>27 ch</td><td>27.275 MHz</td></tr> <tr><td>8 ch</td><td>27.055 MHz</td><td>28 ch</td><td>27.285 MHz</td></tr> <tr><td>9 ch</td><td>27.065 MHz</td><td>29 ch</td><td>27.295 MHz</td></tr> <tr><td>10 ch</td><td>27.075 MHz</td><td>30 ch</td><td>27.305 MHz</td></tr> <tr><td>11 ch</td><td>27.085 MHz</td><td>31 ch</td><td>27.315 MHz</td></tr> <tr><td>12 ch</td><td>27.105 MHz</td><td>32 ch</td><td>27.325 MHz</td></tr> <tr><td>13 ch</td><td>27.115 MHz</td><td>33 ch</td><td>27.335 MHz</td></tr> <tr><td>14 ch</td><td>27.125 MHz</td><td>34 ch</td><td>27.345 MHz</td></tr> <tr><td>15 ch</td><td>27.135 MHz</td><td>35 ch</td><td>27.355 MHz</td></tr> <tr><td>16 ch</td><td>27.155 MHz</td><td>36 ch</td><td>27.365 MHz</td></tr> <tr><td>17 ch</td><td>27.165 MHz</td><td>37 ch</td><td>27.375 MHz</td></tr> <tr><td>18 ch</td><td>27.175 MHz</td><td>38 ch</td><td>27.385 MHz</td></tr> <tr><td>19 ch</td><td>27.185 MHz</td><td>39 ch</td><td>27.395 MHz</td></tr> <tr><td>20 ch</td><td>27.205 MHz</td><td>40 ch</td><td>27.405 MHz</td></tr> </tbody> </table> Note: Frequency tolerance is within ±600 Hz.		Channel	Frequency	Channel	Frequency	1 ch	26.965 MHz	21 ch	27.215 MHz	2 ch	26.975 MHz	22 ch	27.225 MHz	3 ch	26.985 MHz	23 ch	27.255 MHz	4 ch	27.005 MHz	24 ch	27.235 MHz	5 ch	27.015 MHz	25 ch	27.245 MHz	6 ch	27.025 MHz	26 ch	27.265 MHz	7 ch	27.035 MHz	27 ch	27.275 MHz	8 ch	27.055 MHz	28 ch	27.285 MHz	9 ch	27.065 MHz	29 ch	27.295 MHz	10 ch	27.075 MHz	30 ch	27.305 MHz	11 ch	27.085 MHz	31 ch	27.315 MHz	12 ch	27.105 MHz	32 ch	27.325 MHz	13 ch	27.115 MHz	33 ch	27.335 MHz	14 ch	27.125 MHz	34 ch	27.345 MHz	15 ch	27.135 MHz	35 ch	27.355 MHz	16 ch	27.155 MHz	36 ch	27.365 MHz	17 ch	27.165 MHz	37 ch	27.375 MHz	18 ch	27.175 MHz	38 ch	27.385 MHz	19 ch	27.185 MHz	39 ch	27.395 MHz	20 ch	27.205 MHz	40 ch	27.405 MHz
Channel	Frequency	Channel	Frequency																																																																																			
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RF POWER METER																																																																																						
Set transceiver in transmitting condition. Be sure to connect RF wattmeter. (Refer to fig. 17)	R146 (Semi-fixed)	Adjust R146 so that the pointer of the meter stays as illustrated in figure. 																																																																																				

CONNECTION/CONDITION	ADJUSTMENT	REMARKS
AVR		
Set transceiver in transmitting condition. Be sure to connect RF wattmeter. (Refer to fig. 18)	R171 (Semi-fixed)	1) Set AC/DC select switch to AC. 2) Adjust R171 so that transmission out is same as DC output.

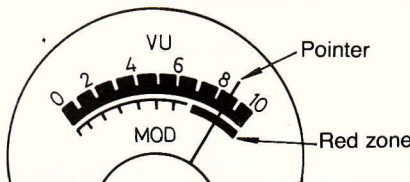
RECEIVER ADJUSTMENT

2nd IF (455kHz)		
Connect RF signal generator: ⊕ side to TP2 ⊖ side to E Set transceiver in receiving condition. (Refer to fig. 19)	T11 (IFT) T12 (IFT) T14 (IFT)	1) Set RF signal generator to 455 kHz (1 kHz 30% Mod). 2) Adjust T11, T12, and T14 for maximum audio output. 3) Repeat above procedure. Note: Do not connect ⊖ side of RF signal generator to metal chassis. Use ground of circuit board.
RF AND 1st IF (10.695MHz)		
Connect RF signal generator to antenna socket. Set transceiver in receiving condition. (Refer to fig. 20)	T1 (ANT Coil) T2 (RF Coil) T3 (RF Coil) T8 (IFT)	1) Set to channel 10. 2) Set RF signal generator output to 27.075 MHz (1 kHz 30% mod). 3) Pull out T2 and T3 to the top of bobbin. 4) Adjust T1 for maximum audio output. 5) Adjust T2, T3 and T8 for maximum audio output. 6) Do not readjust coils after adjustment.
S-METER		
Connect RF signal generator to antenna socket. Set transceiver in receiving condition. (Refer to fig. 20)	R143 (Semi-fixed)	1) Set RF signal generator output to 40 dB (100 μV), 1 kHz, 30% mod. 2) Adjust R143 so that S-meter indicates "9" scale.
SQUELCH		
Connect RF signal generator to antenna socket. Set transceiver in receiving condition. Set squelch control to maximum. (Refer to fig. 20)	R46 (Semi-fixed)	1) Set RF signal generator output to 40 dB (100 μV), 1 kHz, 30% mod. 2) Adjust R46 until squelch becomes open.

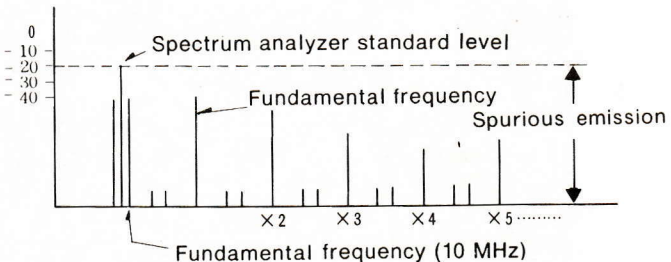
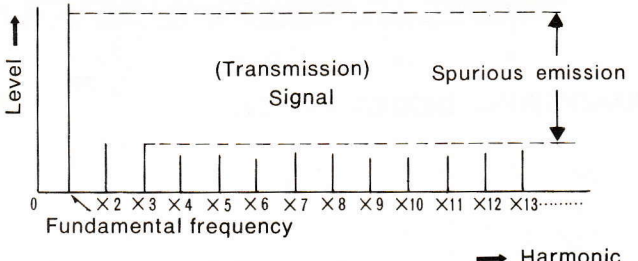
TX MODULATION ADJUSTMENT

Connect DC voltmeter: ⊕ side to TP10 ⊖ side to E Set transceiver in receiving condition (Refer to fig. 21)	R94 (Semi-fixed)	Adjust R94 until 0.75 V ±0.02 V is read on the DC voltmeter. Note: Do not connect ⊖ side of DC voltmeter to metal chassis. Use ground of circuit board.
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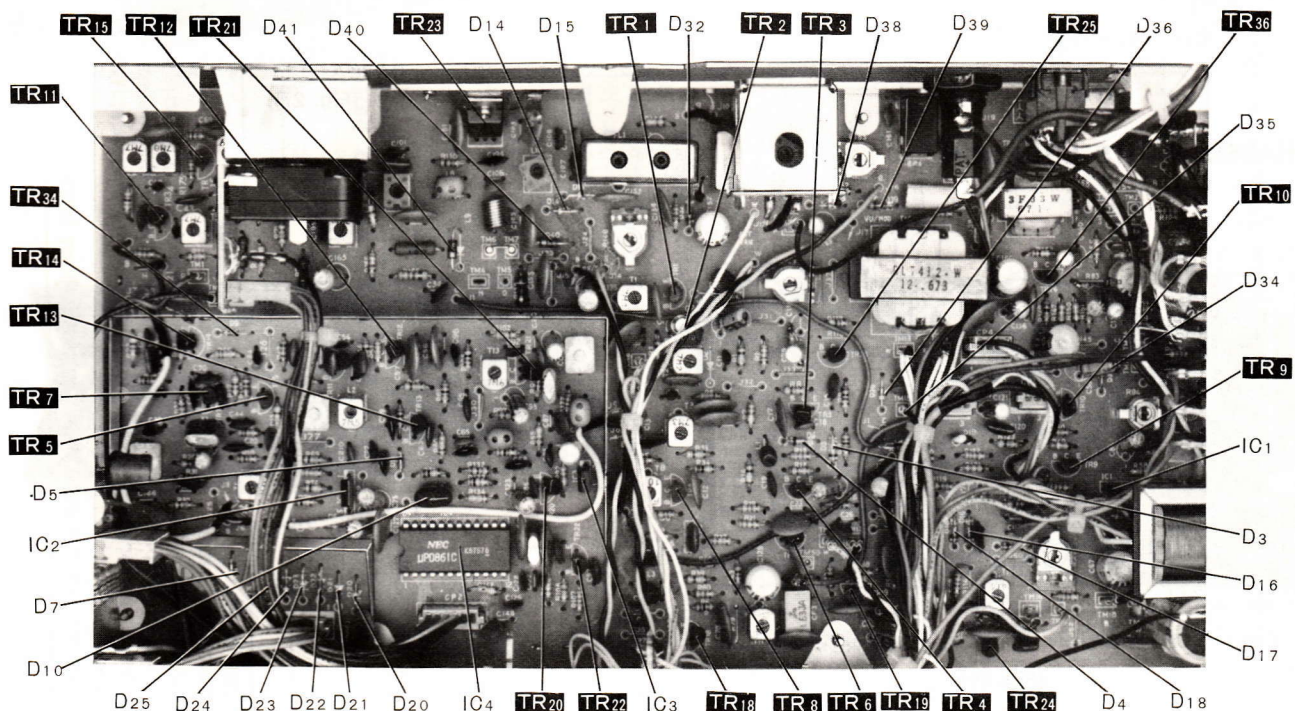
VU-MODULATION METER ADJUSTMENT

Connect RF signal generator to antenna socket. Set transceiver in receiving condition. (Refer to fig. 20)	R163 (Semi-fixed)	1) Set to channel 20. 2) Set RF signal generator output to 60 dB (1 mV), 1 kHz, 30% mod. 3) Adjust R163 so that meter indicates 1/2 red zone. 
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■ SPURIOUS EMISSION CHECK

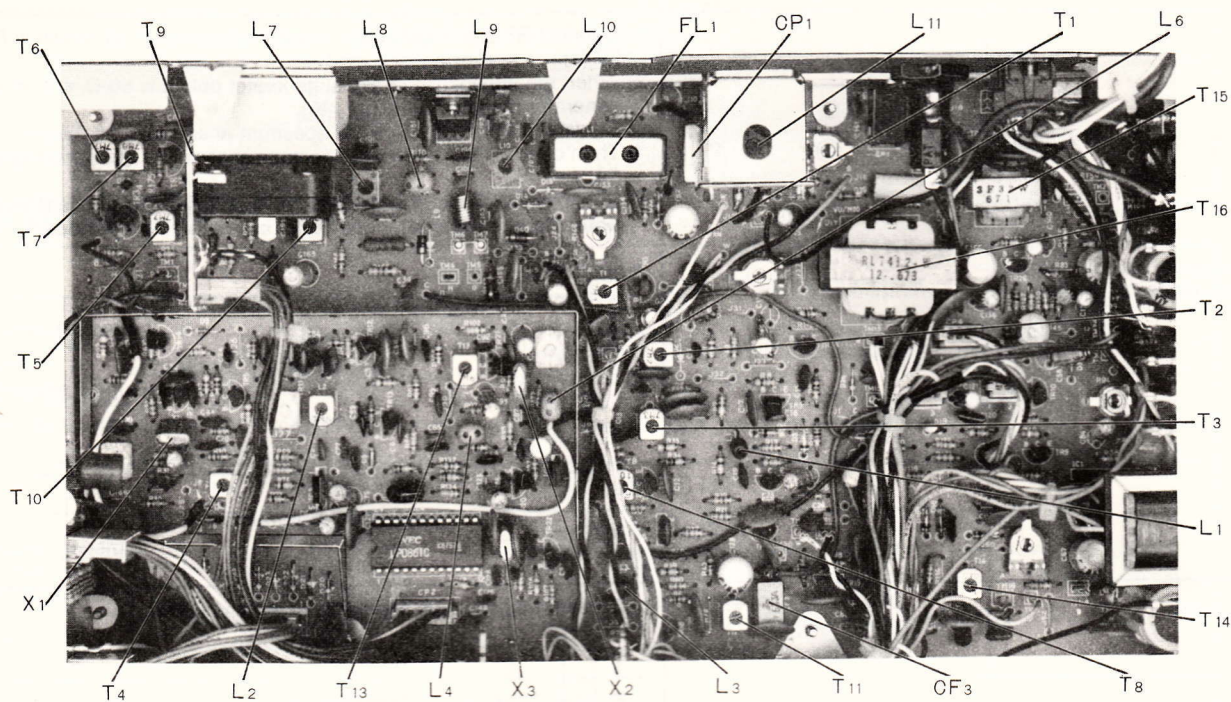
CONNECTION/CONDITION	ADJUSTMENT	REMARKS
Set transceiver in receiving condition. (Refer to fig. 22)	_____	1) Connect RF signal generator to spectrum analyzer as shown in Fig. 22 (a). 2) When the impedance of signal generator output is 50 Ω, set signal generator output to 56 dB (2 nW). 3) Confirm standard level on the spectrum analyzer. 4) Then connect transceiver to Spectrum analyzer as shown in Fig. 22 (b). 5) Confirm that spurious emission should be less than standard level. Note: Do not transmit while checking receiving spurious.  The graph shows a vertical axis for level from 0 to -40 dB. A horizontal dashed line at -10 dB is labeled 'Spectrum analyzer standard level'. A series of vertical lines represent the 'Fundamental frequency (10 MHz)' and its harmonics (X2, X3, X4, X5). A specific harmonic is labeled 'Spurious emission'.
Set transceiver in transmitting condition. (Refer to fig. 23)	_____	1) Confirm that spurious should be more than 60 dB.  The graph shows a vertical axis for 'Level' and a horizontal axis for 'Fundamental frequency' with harmonics X2 through X13. A horizontal dashed line is labeled '(Transmission) Signal'. A specific harmonic is labeled 'Spurious emission'. An arrow points to the harmonics with the label 'Harmonic'.

■ INTEGRATED CIRCUITS, TRANSISTORS AND DIODES



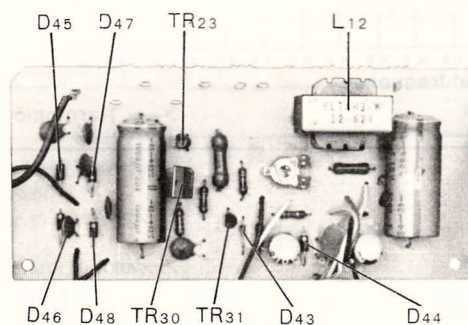
(Fig. 24)

■ TRANSFORMERS, COILS, CERAMIC FILTERS, CRYSTALS,
COMPONENT COMBINATIONS AND FILTERS.



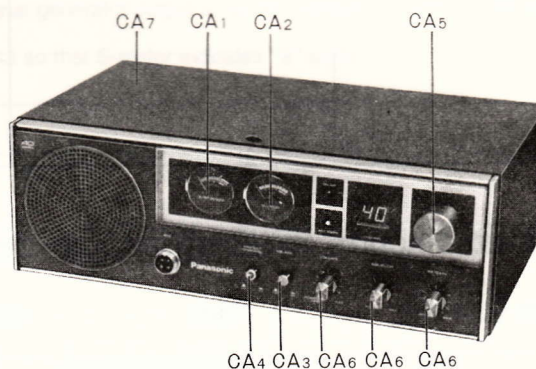
(Fig. 25)

■ TRANSISTORS, DIODES, AND COIL



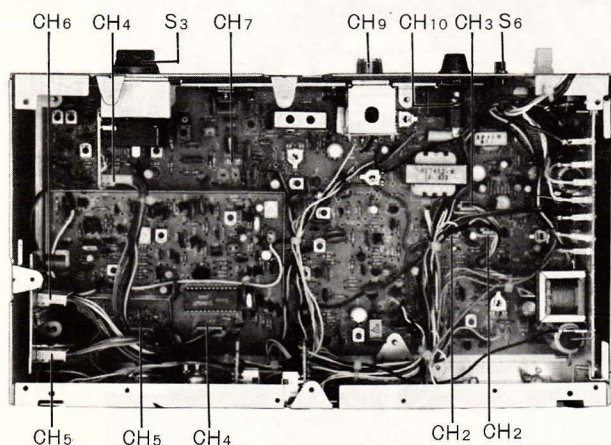
(Fig. 26)

■ CABINET PARTS LOCATION

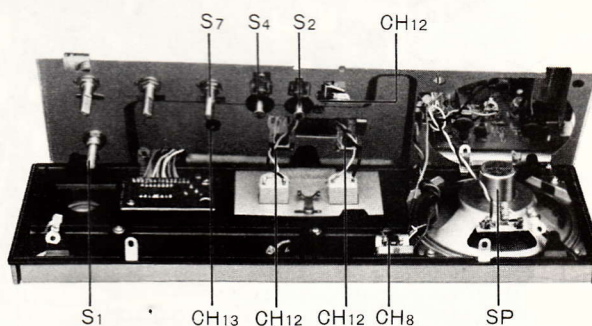


(Fig. 27)

■ CHASSIS PARTS LOCATION



(Fig. 28)



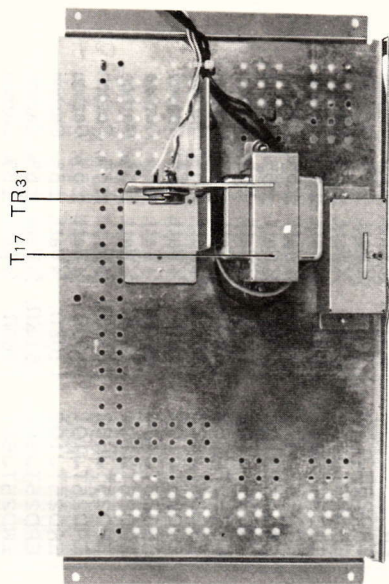
(Fig. 29)

REPLACEMENT PARTS LIST.....Model RJ-3600 (RD7704-1418)

- NOTES: 1. Part numbers are indicated on most mechanical parts.
Please use this number for parts orders.
2. Components identified by shaded area have special characteristic important for safety.
When replacing any of these components use only manufactures specified parts.
3. Part numbers shown in bold letters are service standard parts and may differ from Production parts.
4. The O mark is used by the manufacturing plant only.

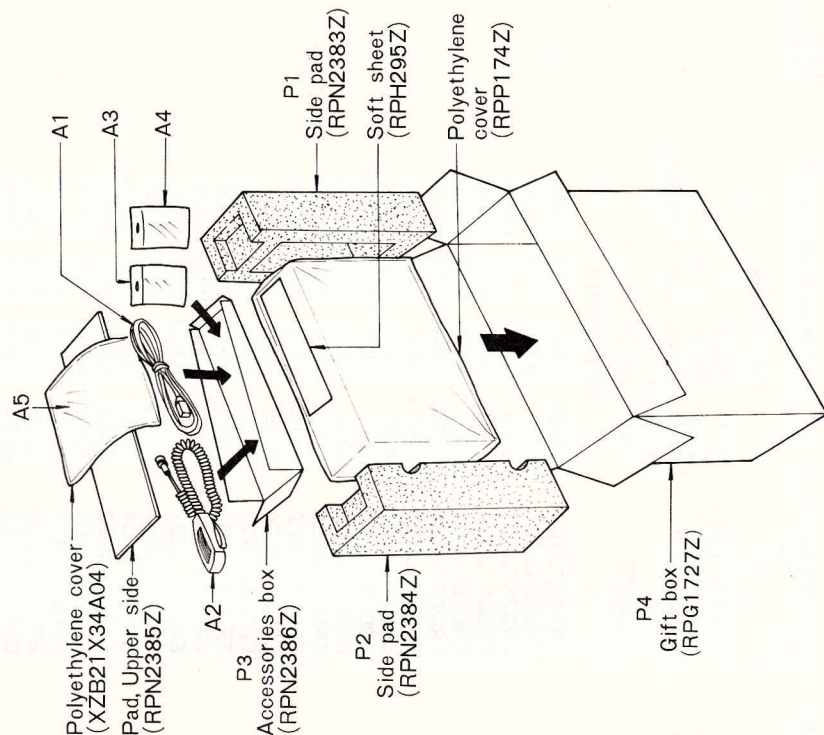
Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
INTEGRATED CIRCUIT, TRANSISTORS AND DIODES				
IC1	RVIµPC566	IC, Mic Amp.	1	O
IC2	RVIM51202L	IC, Voltage Comparator	1	O
IC3	RVIµPC78L05	IC, AVR	1	O
IC4	RVIµPD861C	IC, PLL	1	O
TR1,7,11,13, 15,16,20, 21,34	2SC1359	Transistor (Si), AGC, TX Local Oscillator, VCO, Mixer, RF Amp, Pre Driver, Buffer, Oscillator, TX Mixer	9	
TR2	3SK40	Transistor (Si), RF Amp.	1	
TR3,4,6,9,25, 26,32,33	2SC828	Transistor (Si), Noise Blanker, Squelch, AGC, AF Amp. AVR, Current Limiter	8	
TR5,8,12,18, 19,22,24	2SC829	Transistor (Si), Buffer, 1st & 2nd Mixer, IF Amp.	7	
TR10,14	2SA564	Transistor (Ge), Squelch, Switching	2	
TR17	2SC1957	Transistor (Si), Driver	1	
TR23	2SC1909	Transistor (Si), Last Stage Amp.	1	
TR27	2SC1384	Transistor (Si), AF Amp.	1	
TR28,29	2SC1098	Transistor (Si), AF Power Amp.	2	O
TR30	2SC1226	Transistor (Si), AVR	1	
TR31	2SC647	Transistor (Si), AVR	1	
D1,6~15, 20~31,33 34,36,38	MA150	Diode (Si), AGC, Switching Limiter, Protector, AOC	27	
D3,4,16~18, 32,39	OA90	Diode (Ge), Rectifier, Detector & AGC	7	
D5	1S2687AA	Diode (Si), VCO	1	
D19,37	RVDVD1150L	Diode (Si), ANL, AOC	2	
D35,40,41, 44~48	RVD10E1	Diode (Si), Protector, Switching, Rectifier	8	
D42	RVD1N4739	Diode (Si), AVR	1	
D43	RVDRD8R2EC	Diode (Si), AVR	1	O
D50	RVDGL31AR	Diode (Ga), ON AIR Indicator	1	
LED1	RAD301ZE	Diode (Ga), Channel Display	1	O
THERMISTOR				
TH1	RRT102	Temperature Compensator	1	
CERAMIC FILTER, COILS AND TRANSFORMERS				
CF1,2	RVFCF10S12CR	Ceramic Filter	2	
CF3	RVFCFW455H4	Ceramic Filter	1	O

TRANSISTOR AND TRANSFORMER



(Fig. 30)

ACCESSORIES AND PACKING MATERIALS



(Fig. 31)

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
L2	RLA7M5	Coil, VCO	1	○
L7,10	RLD7M1	Coil, TX RF (RLD7M1-0)	2	○
L9	RLQY30S2	Coil, Chork (RLQY30S2-0)	1	○
L11	RLD7M2	Coil, TX RF (RLD7M2-0)	1	○
L12	RLT6H3	Coil, Chork	1	○
T1	RLA7M1	Coil, 1st IF	1	○
T2	RLA7M2	Coil, 1st IF	1	○
T3	RLA7M3	Coil, 1st IF	1	○
T4	RLA7M4	Coil, VCO	1	○
T5,6	RLA7M7	Coil, TX RF	1	○
T7	RLA7M8	Coil, TX RF	1	○
T8	RLI4M101	IPT, 1st IF	1	○
T9	RLA7M9	Coil, TX RF	1	○
T10	RLA7M10	Coil, TX RF	1	○
T11,12	RLI2M205	IPT, 2nd IF	2	○
T13	RLA7M6	Coil, VCO	1	○
T14	RLI2M402	IPT, 2nd IF	1	○
T15	RLT3F33	Transformer, Input, P=1.4KΩ:S=1.4KΩ	1	○
T16	RLT4I2	Transformer, Output, P=50Ω:S=8Ω:M=24Ω	1	○
T17	RLT5M330	Transformer, Modulation (RLT5M330A-W)	1	○
CRYSTALS				
X1	RVCX10695R4Z	Crystal, 10.695MHz	1	
X2	RVCX35740R4Z	Crystal, 35.740MHz	1	
X3	RVCX10240Q4Z	Crystal, 10.240MHz	1	
VARIABLE RESISTOR				
R94	EVLS3AA00B15	100KΩ (B), Preset, TX Modulation Adjustment	1	
R46,163	EVLS3AA00B23	2KΩ (B), Preset, Squelch, VU Meter Adjustment	2	
R171	EVLS3AA00B52	500KΩ (B), Preset, AVR Adjustment	1	
R146	EVLS3AA00B54	50KΩ (B), Preset, RF/Power Meter Adjustment	1	
R143	EVLS3AA00B24	20KΩ (B), Preset, S-Meter Adjustment	1	
R41	EVHCMC087C14	10KΩ (C), Squelch Control	1	○
R124, (S7)	EVHCMC087D14	10KΩ (D), Volume Control & Power Source	1	○
R4	EVHCMC087B54	50KΩ (B), RF-Gain Control	1	○
VARIABLE CAPACITOR				
C28,37,89	RCV1PX30AG	Trimmer Capacitor	3	○
COMPONENT COMBINATION				
FTL1	RLF5006	Component Combination, Low Pass Filter	1	
CP1	RLF5007	Component Combination, Directional Coupler Transistor×1, Diode×2, Coil×2, Capacitor×3, Resistor×4.	1	○
SPEAKER				
SP	EAS10P108S	Speaker, Imp 8Ω, 10cm (4") PM Dynamic	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
SWITCHES				
S1	ESRN33TF25A	Switch, Channel Select	1	○
S2-1,S2-2	ESRN111TF20A	Switch, Preset Channel	1	○
S3,S4-1,	RSH2B02Z-A	Switch, Preset Channel Select	2	○
S4-2	ANL/NB			
S6	ESD393T	Switch, AC/DC Select	1	○
RESISTORS				
R1	ERD25TJ104	100KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R2	ERD25TJ221	220Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R3	ERD25TJ101	100Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R5	ERD25TJ331	330Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R6	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R7	ERD25TJ224	220KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R8	ERD25TJ473	47KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R9	ERD25TJ101	100Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R10	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R11	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R12	ERD25TJ223	22KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R13	ERD25TJ822	8.2KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R14	ERD25TJ104	100KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R15	ERD25TJ473	47KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R16	ERD25TJ153	15KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R17	ERD25TJ471	470Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R18	ERD25TJ221	220Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R19	ERD25TJ682	6.8KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R20	ERD25TJ104	100KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R21	ERD25TJ222	2.2KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R22	ERD25TJ104	100KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R23	ERD25TJ471	470Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R24	ERD25TJ223	22KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R25	ERD25TJ222	2.2KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R26	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R27	ERD14FJ101	100Ω, $\frac{1}{4}$ Watt, $\pm 5\%$, Carbon	1	
R28	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R29	ERD25TJ472	4.7KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R30	ERD25TJ103	10KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R31	ERD25TJ472	4.7KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R32	ERD25TJ681	680Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R33	ERD25TJ474	470KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R34	ERD25TJ104	100KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R35	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R36	ERD25TJ682	6.8KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R37	ERD25TJ223	22KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R38	ERD25TJ102	1KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R39	ERD25TJ474	470KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R40	ERD25TJ104	100KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R42	ERD25TJ682	6.8KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R43	ERD25TJ101	100Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R44	ERD25TJ103	10KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R45	ERD25TJ562	5.6KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R47	ERD25TJ561	560Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R48	ERD25TJ151	150Ω, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	
R49	ERD25TJ473	47KΩ, $\frac{1}{2}$ Watt, $\pm 5\%$, Carbon	1	